

Joint Symposium

J-1

Delivering Plant-based Innovations for a Better World. A. DA SILVA CONCEICAO. Calyxt, 2800 Mount Ridge Rd, Roseville, MN 55113. Email: alexandre.dasilvaconceicao@calyxt.com

The future demands healthy and sustainable plant-based innovation, which is where Calyxt comes in to play a role. We are revolutionizing the way the world uses plants to solve problems with cutting-edge proprietary breeding technologies, like TALEN® gene editing technology. We are making possible what farmers and botanists have been doing for hundreds of years by choosing the best plants and breeding them to make stronger, more uniform and productive crops like oat, hemp, soybean and wheat. We accelerate this process by enhancing the unique characteristics that naturally exist in each plant to develop breakthrough products that deliver benefits like climate resistance, consumer health, animal nutrition, improved grower economics, and more.

J-2

Making Healthier Easier: From the Lab to the Consumer. M. MANN. Pairwise, 807 East Main Street, Suite 4-100, Durham, NC 27701. Email: mmann@pairwise.com

Pairwise is a mission driven, food+tech start-up company dedicated to building a healthier world through better fruits and vegetables. Consumer insights are a key driver for our product focused science and portfolio strategy, with the goal of making healthier easier. The average American consumes only half the recommended daily intake of fruits and vegetables (CDC), despite widespread availability. This underconsumption leads to tangible negative outcomes. The application of CRISPR / gene editing to plant breeding holds tremendous potential to transform agriculture and food production. Pairwise is using our world class editing capabilities to

address challenges like these by making healthy food more convenient, consistent, and available. This presentation will share Pairwise progress in establishing our consumer editing pipelines in the lab to deliver differentiated products to the produce aisle, as well as our vision for opportunities in fresh produce.

J-3

MyGenome_{RX}: Making Personalized Medicine Accessible to Consumers. ANNETTE GILCHRIST. MyGenomeRx, 1515 S. Grove Ave. #3381, Barrington, IL 60011-3381. Email: annette@mygenomerox.com

Pharmacogenomics combines pharmacology (the study of drugs) and genomics (the study of genes) and involves how a person's DNA can alter their response to drugs. Whether it be allergies, headaches, pain, or chronic disease management, most people turn to medications for intervention. Variations in a person's DNA can alter things such as the proteins that a drug targets, the proteins responsible for the drug's metabolism, or the proteins that transport the drug into cells. Such genetic differences affect how the person ultimately responds to the medication. The promise of pharmacogenomics is that with this type of information physicians can identify drugs that may be ineffective, or avoid prescribing a medication that will have adverse reactions. At MyGenomeRx we have developed an online interface that identifies potential gene-drug interactions based on Direct-to-Consumer (DTC) genetic tests from companies like Ancestry, or 23andme. Clients upload the raw DNA file provided by the at-home testing company, along with a current medication list. The online portal analyzes over 2000 genes for genetic differences known to affect medication response and provides pharmacogenomic information back to the consumer in seconds. Results are given in straightforward, easy to understand educational reports with information presented using visually appealing tables and graphics. As part of our detailed Pharmacogenomic Report we provide a Drug-Drug Interaction Report free of charge.

MyGenomeRx Pharmacogenomic Reports can be used to assist with personalized medication therapy management, under the direction of a healthcare provider. In summary, we use in-

hand DNA results to provide information to the consumer on gene-drug compatibility that will help guide their drug therapy.